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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/667,648

09/22/2003

Walter H. Christiansen

US.03.036

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06/05/2006

RESOLUTION PERFORMANCE PRODUCTS LLC

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EXAMINER

FEELY, MICHAEL J

ART UNIT

PAPER NUMBER

1712

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/667,648

**Applicant(s)**

CHRISTIANSEN ET AL.

**Examiner**

Michael J. Feely

**Art Unit**

1712

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 9-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Pending Claims***

Claims 1-7 and 9-18 are pending.

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 28, 2006 has been entered.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The rejection of claims 1-7 and 14-18 under 35 U.S.C. 102(b) as being anticipated by Seltzer et al. (US Pat. No. 4,168,364) has been overcome by amendment.

4. The rejection of claims 1-5, 8-14, and 17 under 35 U.S.C. 102(b) as being anticipated by Greene (US Pat. No. 6,344,520) stands for the reasons of record.

Regarding claims 1-5, 8-14, and 17, Greene discloses: *(I)* a process for preparing a resin coated article, the process comprising contacting a substrate with an accelerated resin composition (Abstract; column 1, lines 6-12) comprising an epoxy resin (column 3, line 30 through column 6, line 53), a curing agent (column 6, line 65 through column 7, line 53), and an

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alkali metal containing cure accelerator compound (column 7, line 54 through column 8, line 2); wherein the curing agent is an amine or amide containing curing agent or a phenolic curing agent (column 6, line 65 through column 7, line 53), and wherein the contacting occurs by a contacting method (column 8, lines 50-64; column 9, lines 9-14);

(2) wherein the accelerated resin composition further comprises one or more solvents (column 8, lines 50-64);

(3) wherein the accelerated resin composition is in powder, hot melt, solution, or dispersion form (column 8, lines 50-64);

(4) wherein the contacting method is selected from the group consisting of powder coating, spray coating, die coating, roll coating, resin infusion and contacting the substrate with a bath comprising the accelerated resin composition (column 8, lines 50-64; column 9, lines 9-14);

(5) wherein the substrate comprises a material selected from the group consisting of glass, fiberglass, quartz, paper, thermoplastic resin, an unwoven aramid reinforcement, carbon, graphite, ceramic, metal and combinations thereof (column 9, lines 9-14; Examples);

(8) wherein the alkali metal containing cure accelerator compound is selected from the group consisting of an alkali metal containing hydroxide, alkoxide, carboxylate, halide salt, borate, bicarbonate, carbonate, chlorate, nitrate, phosphate, sulfate, sulfide, sulfite, polysulfide, thiocyanate, silicate, aluminate, phosphonate, sulfonate, cyanate, thiolate, thiophenoxide, thiocarboxylate, thiophosphate, imide salt, an alkali metal ion complexed with coordinating compounds, and combinations thereof (column 7, lines 59-60);

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(9) wherein the alkali metal containing cure accelerator compound is selected from the group consisting of an alkali metal containing hydroxide, alkoxide, phenoxide, carboxylate, halide salt, carbonate and combinations thereof (column 7, lines 59-60);

(10) wherein the alkali metal containing compound is represented by the formula MOR or  $(MO)_n-R$  wherein M is a metal selected from Group 1 of the periodic table of elements, O is oxygen, and R is hydrogen or a substituted or unsubstituted hydrocarbyl group (column 7, lines 59-60); (11) wherein M is lithium, sodium or potassium, and R is hydrogen or a  $C_1$  to  $C_{40}$  hydrocarbyl group (column 7, lines 59-60); (12) wherein OR represents a hydroxy, a methoxy, an ethoxy, an n-propoxy, an isopropoxy, an n-butoxy, an iso-butoxy, a sec-butoxy, a tert-butoxy, or a phenoxy group (column 7, lines 59-60); (13) wherein the alkali metal containing compound is selected from the group consisting of lithium hydroxide, sodium hydroxide, potassium hydroxide, sodium methoxide, potassium methoxide, lithium methoxide and combinations thereof (column 7, lines 59-60);

(14) wherein the alkali metal containing cure accelerator compound is utilized in an amount greater than 0.00001 molar equivalents per 100 grams of epoxy resin solids (column 7, lines 54-58); and

(17) a resin coated article prepared by the process of claim 1 (column 9, lines 9-14; Examples).

5. Claims 1, 3-7, and 9-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Allen (US Pat. No. 4,393,181).

Regarding claims 1, 3-7, and 9-18, Allen discloses: (1) a process for preparing a resin coated article, the process comprising contacting a substrate with an accelerated resin

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composition (column 1, lines 39-57) comprising an epoxy resin (column 3, line 9 through column 4, line 26), a curing agent (column 1, line 61 through column 3, line 6), and an alkali metal containing cure accelerator compound (column 4, lines 58-65); wherein the curing agent is an amine or amide containing curing agent or a phenolic curing agent (column 1, line 61 through column 3, line 6); and wherein the contacting occurs by a contacting method (column 5, lines 3-15);

(3) wherein the accelerated resin composition is in powder, hot melt, solution, or dispersion form (column 4, line 33 through column 5, line 15);

(4) wherein the contacting method is selected from the group consisting of powder coating, spray coating, die coating, roll coating, resin infusion and contacting the substrate with a bath comprising the accelerated resin composition (column 4, line 33 through column 5, line 15);

(5) wherein the substrate comprises a material selected from the group consisting of glass, fiberglass, quartz, paper, thermoplastic resin, an unwoven aramid reinforcement, carbon, graphite, ceramic, metal and combinations thereof (column 5, lines 3-15);

(6) wherein the article is a prepreg, wherein the substrate comprises a material selected from the group consisting of glass, fiberglass, quartz, paper, thermoplastic resin, an unwoven aramid reinforcement, carbon, graphite, ceramic, metal and combinations thereof, and wherein the contacting occurs in a bath comprising the accelerated resin composition and optionally one or more solvents (column 5, lines 3-15); (7) wherein the substrate is glass or fiberglass in the form of a woven cloth or a mat (column 5, lines 3-15);

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(9) wherein the alkali metal containing cure accelerator compound is selected from the group consisting of an alkali metal containing hydroxide, alkoxide, phenoxide, carboxylate, halide salt, carbonate and combinations thereof (column 4, lines 58-65);

(10) wherein the alkali metal containing compound is represented by the formula MOR or  $(MO)_n-R$  wherein M is a metal selected from Group 1 of the periodic table of elements, O is oxygen, and R is hydrogen or a substituted or unsubstituted hydrocarbyl group (column 4, lines 58-65); (11) wherein M is lithium, sodium or potassium, and R is hydrogen or a  $C_1$  to  $C_{40}$  hydrocarbyl group (column 4, lines 58-65); (12) wherein OR represents a hydroxy, a methoxy, an ethoxy, an n-propoxy, an isopropoxy, an n-butoxy, an iso-butoxy, a sec-butoxy, a tert-butoxy, or a phenoxy group (column 4, lines 58-65); (13) wherein the alkali metal containing compound is selected from the group consisting of lithium hydroxide, sodium hydroxide, potassium hydroxide, sodium methoxide, potassium methoxide, lithium methoxide and combinations thereof (column 4, lines 58-65);

(14) wherein the alkali metal containing cure accelerator compound is utilized in an amount greater than 0.00001 molar equivalents per 100 grams of epoxy resin solids (column 4, lines 58-65);

(15) wherein the epoxy resin is derived from the reaction of an epihalohydrin and a phenol or a phenol type compound (column 3, line 9 through column 4, line 26); (16) wherein the phenol or a phenol type compound is selected from the group consisting of bisphenols, halogenated bisphenols, hydrogenated bisphenols, novolac resins, polyalkylene glycols and combinations thereof (column 3, line 9 through column 4, line 26);

(17) a resin coated article prepared by the process of claim 1 (column 5, lines 3-15); and

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(18) a prepreg prepared by the process of claim 1 (column 5, lines 3-15).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (Reg. No. 4,393,181) in view of Seltzer et al. (US Pat. No. 4,168,364).



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Allen discloses, "These present adducts can be utilized in epoxy resin compositions for use in many applications, such as for coatings and impregnating compositions in the preparation of adhesives for metals, wood, cement and the like, and in preparation of reinforced composite products...A very suitable application is in the preparation of reinforced products and laminates wherein the compositions are applied to fibrous products such as glass fibers or sheets and the material formed into the desired object and cured," (column 5, lines 3-15). However, they do not explicitly disclose: (2) wherein the accelerated resin composition further comprises one or more solvents.

The analogous nature of Seltzer et al. is as set forth in the previous Office action and incorporated herein. Seltzer et al. also use their formulation for making prepreg materials (column 7, lines 39-50). They use a solvent to aid the impregnation process: "The preferred formulations are in the form of solution wherein the curable epoxide resin composition further comprises an inert organic solvent. Such solvents are common organic solvents such as ketones, alcohols, ethers and glycol ethers," (column 7, lines 51-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a solvent, as taught by Seltzer et al., in the composition of Allen because the preferred embodiments of Seltzer et al. include an organic solvent, which aid in the impregnation process.

***Response to Arguments***

10. Applicant's arguments filed April 28, 2006 have been fully considered but they are not persuasive.

With respect to the Greene reference, Applicants argue that Greene does not teach or suggest utilizing an alkali metal containing compound as a cure accelerator in an epoxy resin composition for preparing a resin coated article.

The epoxy-functional siloxane compound of Greene satisfies the material limitations of the instantly claimed "epoxy resin", and the overall composition is used to coat other materials. In addition to a hardener (crosslinker), Greene discloses, "To increase the rate of the crosslinking reaction, a catalyst may be used...suitable catalysts are hydrochloric acid (HCl), sulfuric acid (H<sub>2</sub>SO<sub>4</sub>) and *potassium hydroxide (KOH)*. Greene explicitly discloses that the catalyst is used to increase the rate of the hardening (crosslinking) reaction. Hence, the arguments are not persuasive.

Furthermore, it has been found that, "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present – *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

The Greene reference satisfies all of the material limitations of the instant invention (*for claims 1-5, 8-14, and 17*); hence, it appears that it would have inherently satisfied the process of the instant invention as well.

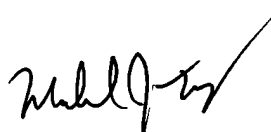
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*Communication*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael J. Feely  
Primary Examiner  
Art Unit 1712

May 30, 2006

**MICHAEL FEELY**  
**PRIMARY EXAMINER**